

## CLAIMS

What is claimed is:

- 1 1. A method of operating a server machine to expand input strings of characters  
2 received from client machines that include character input devices:  
3 storing, in a location accessible to said server machine, one or more mappings  
4 between abbreviated substrings and expanded substrings;  
5 receiving, at the server machine, an unexpanded input string of characters from a  
6 client machine that includes a character input device, the unexpanded input  
7 string including at least one abbreviated substring, each preceded and  
8 followed in the unexpanded input string by word delimiters; each abbreviated  
9 substring belonging to a set of abbreviated substrings in an applicable  
10 mapping of said one or more mappings; and  
11 automatically finding one of the abbreviated substrings based on the preceding and  
12 following word delimiters;  
13 determining, based on said applicable mapping, that the abbreviated substring  
14 corresponds to a particular expanded substring, and  
15 producing an expanded input string that is a version of the unexpanded input string  
16 with the abbreviated substring replaced by said particular expanded substring.
- 1 2. The method of claim 1 in which one of the abbreviated substrings begins with a  
2 character and represents an expanded substring that begins with the same character  
3 and in which the step of determining that the abbreviated substring corresponds to a  
4 particular expanded substring comprises:  
5 determining the case of the beginning character in the abbreviated substring; and  
6 giving the determined case to the beginning character in the expanded substring.

3. The method of claim 1 in which one of the abbreviated substrings represents expanded substrings that depend on time and in which the step of determining that the abbreviated substring corresponds to a particular expanded substring comprises: performing a computation to obtain an expanded substring based on the current time; and producing the expanded input string with the abbreviated substring replaced by the expanded substring based on the current time.

4. A server machine for expanding input strings of characters received from client machines that include character input devices, the server machine comprising: a processor; and connecting circuitry for connecting the processor to a user's client machine that includes a character input device; the processor operating to: access, in a location accessible to said server machine, one or more mappings between abbreviated substrings and expanded substrings; receive, at the server machine, an unexpanded input string of characters from a client machine that includes a character input device, the unexpanded input string including at least one abbreviated substring, each preceded and followed in the unexpanded input string by word delimiters; each abbreviated substring belonging to a set of abbreviated substrings in an applicable mapping of said one or more mappings; and automatically find one of the abbreviated substrings based on the preceding and following word delimiters; determine, based on said applicable mapping, that the abbreviated substring corresponds to a particular expanded substring, and

19 produce an expanded input string that is a version of the unexpanded input string with  
20 the abbreviated substring replaced by said particular expanded substring.

5. A method of performing a server action that requires user input, the method comprising the steps of:

21 storing, at a location accessible to a server machine, one or more mappings between  
22 abbreviated substrings and expanded substrings;

23 receiving from a client machine an unexpanded input string that includes an  
24 abbreviated substring;

25 determining whether said abbreviated substring is constrained to be identically  
26 produced;

27 if said abbreviated substring is constrained to be identically produced, then

28 performing said server action using said abbreviated substring without  
29 expanding said abbreviated substring; and

30 if said abbreviated substring is not constrained to be identically produced, then

31 performing the steps of

32 inspecting a mapping, of said one or more mappings, to determine an

33 expanded substring that corresponds to said unexpanded substring; and

34 performing said server action using said expanded substring.

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36 6. The method of Claim 5 wherein:

37 the client machine is operated by a particular user; and

38 the method further includes the step of determining which mapping of said one or  
39 more mappings to inspect based on identity of said particular user.

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- 41 7. The method of Claim 6 wherein the step of determining which mapping to inspect  
42 includes the steps of:  
43 identifying which group of a plurality of groups includes said particular user, and  
44 identifying a mapping associated with the group that includes said particular user.
8. The method of Claim 5 further comprising the step of determining which mapping of  
said one or more mappings to inspect based on which type of server action is  
requested by said client machine.
9. The method of Claim 5 wherein:  
45 the method further comprises the step of determining a current time; and  
46 determining which substring of a plurality of substrings corresponds to said  
47 unexpanded substring based on the current time.  
48
- 49 10. The method of Claim 9 wherein the step of determining which substring corresponds  
50 to said unexpanded substring includes:  
51 expanding said unexpanded substring to a first expanded substring without regard to  
52 current time; and  
53 expanding said first expanded substring to a second expanded substring based on the  
54 current time.  
55
- 56 11. The method of Claim 5 wherein the step of performing said server action using said  
57 expanded substring is performed without sending said expanded substring to said  
58 client machine.  
59

12. A computer-readable medium carrying instructions for performing a server action that requires user input, the instructions including instructions for performing the steps of:  
60 storing, at a location accessible to a server machine, one or more mappings between  
61 abbreviated substrings and expanded substrings;  
62 receiving from a client machine an unexpanded input string that includes an  
63 abbreviated substring;  
64 determining whether said abbreviated substring is constrained to be identically  
65 produced;  
66 if said abbreviated substring is constrained to be identically produced, then  
67 performing said server action using said abbreviated substring without  
68 expanding said abbreviated substring; and  
69 if said abbreviated substring is not constrained to be identically produced, then  
70 performing the steps of  
71 inspecting a mapping, of said one or more mappings, to determine an  
72 expanded substring that corresponds to said unexpanded substring; and  
73 performing said server action using said expanded substring.  
74
- 75 13. The computer-readable medium of Claim 12 wherein:  
76 the client machine is operated by a particular user; and  
77 the computer-readable medium further includes the step of determining which  
78 mapping of said one or more mappings to inspect based on identity of said  
79 particular user.  
80
- 81 14. The computer-readable medium of Claim 13 wherein the step of determining which  
82 mapping to inspect includes the steps of:  
83 identifying which group of a plurality of groups includes said particular user, and

84 identifying a mapping associated with the group that includes said particular user.

15. The computer-readable medium of Claim 12 further comprising the step of  
determining which mapping of said one or more mappings to inspect based on which  
type of server action is requested by said client machine.

16. The computer-readable medium of Claim 12 wherein:

85 the computer-readable medium further comprises the step of determining a current

86 time; and

87 determining which substring of a plurality of substrings corresponds to said

88 unexpanded substring based on the current time.

89

90 17. The computer-readable medium of Claim 16 wherein the step of determining which  
91 substring corresponds to said unexpanded substring includes:

92 expanding said unexpanded substring to a first expanded substring without regard to

93 current time; and

94 expanding said first expanded substring to a second expanded substring based on the

95 current time.

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18. The computer-readable medium of Claim 12 wherein the step of performing said  
server action using said expanded substring is performed without sending said  
expanded substring to said client machine.